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IBM Selected to Build New DOE Supercomputer

WASHINGTON, D.C. -- IBM has been selected to build a next-generation supercomputer at Los Alamos National Laboratory (LANL), officials with the U.S. Department of Energy (DOE) announced today.

Congress provided $35 million in fiscal year 2006 to enable DOE's National Nuclear Security Administration (NNSA) to launch the high-performance super computer, to be named "Roadrunner."

Roadrunner holds the potential to develop into a machine capable of achieving a never before sustained speed of 1,000 trillion calculations per second, or one petaflop.

DOE Deputy Secretary Clay Sell called the announcement another important step in technology and science leadership at the Energy Department. "Los Alamos National Laboratory has world-renowned accomplishments in technology and science in support of national security," he said. "With this procurement, Los Alamos will continue its pioneering role in high-end computing."

Roadrunner could become the next generation supercomputer for NNSA's stockpile stewardship program, which helps ensure that the U.S. nuclear weapons stockpile is safe and reliable without the resumption of underground nuclear testing. NNSA and LANL officials will analyze the technological development of Roadrunner to determine whether to execute future options to expand the machine, in order to achieve the petaflop goal.

"I am pleased that Los Alamos will be partnering with IBM to greatly improve the lab's supercomputing power. Beginning with the Roadrunner, this partnership will challenge our scientists to develop new technology and eventually breakthrough the petaflop barrier," said U.S. Senator Pete Domenici of New Mexico.

The machine is to be built entirely from commercially available hardware and based on the Red Hat Linux Version 4.3 operating system. IBM System x 3755 systems based on AMD Opteron technology will be deployed in conjunction with IBM BladeCenter H systems with Cell technology. Each system used is designed specifically for high-performance implementations.

Established by Congress in 2000, NNSA is a semi-autonomous agency within the U.S. Department of Energy responsible for enhancing national security through the military application of nuclear science. NNSA maintains and enhances the safety, security, reliability and performance of the U.S. nuclear weapons stockpile without nuclear testing; works to reduce global danger from weapons of mass destruction; provides the U.S. Navy with safe and effective nuclear propulsion; and responds to nuclear and radiological emergencies in the U.S. and abroad. Visit www.nnsa.doe.gov for more information.

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